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PUBLIC LANDS



BUREAU OF LAND MANAGEMENT

OUR PUBLIC LANDS . . .



"Conservation is a state of harmony between men and land. By land is meant all of the things on, over, or in the earth. Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators; you cannot conserve the waters and waste the range; you cannot build the forest and mine the farm. The land is one organism. Its parts, like our own parts, compete with each other and cooperate with each other. The competitions are as much a part of the inner workings as the cooperations. You can regulate them—cautiously—but not abolish them."

(From "Round River—From the Journals of Aldo Leopold," edited by Luna B. Leopold, Oxford University Press, 1953.)

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COVER

Pioneering a new BLM access road. Access is the key to sustained yield forest management on BLM's O&C forest lands in western Oregon. For more about O&C timber management turn to page 4.

Opposite page—a BLM timber cruiser inspects a ponderosa pine in southwest Oregon.

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DEPARTMENT OF THE INTERIOR

Stewart L. Udall, Secretary

BUREAU OF LAND MANAGEMENT

Karl S. Landstrom, Director

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SCALING OR CRUISING

by Ed Zaidlicz, Forester, BLM

IN WESTERN OREGON the Bureau of Land Management administers some 2.1 million acres of some of the finest old growth Douglas fir forest left in the world. These forests are the revested Oregon and California Railroad Grant Lands and the reconveyed Coos Bay Wagon Road Lands, which together are commonly referred to as the O&C.

The O&C presents a particularly challenging problem to the Bureau of Land Management forester. The lands are broken up into a checkerboard of some 7,000 parcels, intermingled with private, State, county, and other Federal land.

Early in the administration of these forest lands, BLM made a decision as to how timber volumes would be measured for public sale. The Bureau chose to sell on the basis of standing tree volume, better known as tree scale cruise or timber cruising. For the O&C, the decision has proved a wise one. Today the O&C is rated as one of the most successful forestry enterprises of the Federal Government.

The only variation from the policy of timber cruising on the O&C, rests in the log scaling of highly defective timber that is so badly decomposed that it does not permit accurate tree scale cruise. These defective and salvage timber sales are limited largely to areas that have been burned and reburned in the past.

A perennial argument within a segment of the timber industry, and among some foresters, is: "Why don't you (BLM) sell by log scale?" An attempt will be made here to analyze the factors and conditions that have brought about the decision to measure for sale by timber cruise.

Essentially, the difference between log scaling and timber cruising rests in the form of the material measured. Cruising is done in the forest, on standing trees. Measurements are taken of the diameter of the tree trunk at breast height, the merchantable height of the tree in logs of a given length, and one other intermediate measurement upon the trunk of the tree to determine form or taper and thereby permit selection of a suitable board foot volume table.

Log scaling is done by measuring the small diameter and length of each log after the tree has been felled and bucked into logs. The gross volume in board feet by either method is very comparable; however, the application of a defect and breakage factor to



TIMBER CRUISER using tree calipers to determine form class.

ABOVE LEFT—scaling logs.

reduce this gross volume to a net recoverable volume can vary. Log scaling does permit the scaler to examine both ends of the log for rot and defect, whereas the timber cruiser must rely on external characteristics of the standing tree and intimate knowledge of the timber in the drainage. Weighted in this light, scaling would appear the most equitable means of measurement for sale, both to the purchaser and to the public, who owns the timber. However, on the O&C there are factors that dictate otherwise.

Scaling can be done on log decks, trucks, in the water, on rollways, and on mill decks. The greater the opportunity the scaler has to examine both ends of the log and its surface the more accurate his scale. Most scaling is done on trucks with the attendant problems of battered or muddy log ends, inability to see the external characteristics on the bark of logs in the center of a load, and in many cases, the element of time. When the trucks are rolling, the scaler must be very capable, quick and experienced technician.

On the O&C approximately 1 billion board feet are sold yearly, with the average timber sale volume being slightly more than 2 million board feet. Contract life does not exceed 2 years. As a result, there may be in the neighborhood of 800 widely scattered active contract operations going at one time over all of western Oregon. All contracts can be operated during the summer months if fire danger is not too great; some can be active on all-weather roads in winter. Most operators buying O&C timber could be classed as "small" with limited working capital. As a result, cutting on sale areas can be very intermittent because of fire danger, weather, money, and markets.

To further complicate the picture, the broken checkerboard ownership pattern makes log control impossible. Logs may be mixed on loads, both private and BLM, peeler logs may go east or north, sawlogs east, west, north or south, pulp logs to the northwest. To maintain control of logs through log scaling, would require a very large complement of scalers who might work only sporadically but would have to be available at all times. An alternative would be to turn the job of scaling over to a private scaling bureau. BLM considers this undesirable. The responsibility for the measurement of volume and value of the timber resource must rest with the agency administering the land.

In appraising timber values it is important to have a consistent, accurate means of measuring quantity. The results must be translatable into units of lumber or other end products to permit extension into value. A determination based on research must be made as to what end products an average mill operating at average efficiency will produce. Studies made by research agencies in the Northwest indicate a wide variation exists in mill operating layout and efficiency. The operational efficiency of the loggers also varies

greatly. Under the tree scale system used by BLM, all the merchantable timber on a clearly defined sale area is cruised, employing a volume table based on standard 16-foot logs and the Scribner Decimal C log rule.

Recovery tables of end products, developed by the Pacific Northwest Forest and Range Experiment Station for given log grades representative of average industry practices, are used to extend current market prices into values per thousand board feet in standing trees. It is assumed that the average purchaser can get a 15 percent overrun in end products over the 16-foot log scale standing tree volume. In other words, a cruise of 10,000 board feet by Scribner Decimal C 16-foot log rule should produce 11,500 board feet of lumber. The overrun percentage is considered only in the price and is not applied to the volume. It represents the differential developed over the years in the log scale-lumber tally ratio because of such factors as thinner saws and dimensional changes in lumber standards.

After deducting proper logging and milling costs and an allowance for profit and risk from the current end product price, the unit value log scale is obtained.

Under the cruise contract no guarantee is made of volume. The volume cited is useful for statistical purposes only. The unit price is also considered only a factor of the equation. The significant figure is the upset price or the total appraised price. The United States Government will accept no less than this total price in competitive sale.

A LOAD of pine logs from the O&C.





A BLM SCALER waits for log trucks to pass a scaling ramp on the O&C.

BLM in effect puts the whole pig up for sale. Although we calculate the units of bacon, ham and so forth, that the average purchaser should get, it is only a step in obtaining the value of the whole. Once the pig is sold, the purchaser must make the fullest use of all parts to maximize his return.

Under the scale approach an average price per unit is obtained and the purchaser must pay this unit price for ham, bacon or sowbelly. If he bids too high, a strong economic inclination exists to take only the good cuts and not recover the poor cuts. To keep this analogy from going to an illogical conclusion it must be pointed out that all prospective purchasers of Government timber are given full and ample opportunity to examine the timber, the area, the contracts and all factors affecting the ultimate price they may bid before the sale date. They are asked to apprise themselves fully of all conditions in the light of their own equipment, personnel, and operating efficiency. In effect, BLM does not want to sell a "pig in the poke."

In log scale sales, a penalty clause may be provided to prevent high grading or taking only the best cuts. The feasibility of this proviso is most

questionable. Experienced fallers can break up marginal trees and the job of enforcing the clause is very critical and at times impossible. Under the cruise approach little policing is required—the operator has no advantage in high grading. Many logs that could legally be scaled as cull are taken out under the cruise contract and furnish much useful material. Industry and local communities benefit as well as the forest site itself in that slash fire hazards are reduced, and reforestation conditions are rendered much more favorable.

From the standpoint of personnel, the rudiments of scaling can be taught comparatively quickly to new men. Cruising requires many years of dedicated experience and competent training. Keeping career scalers in government service is difficult; the turnover is high. Cruising permits utilization of professional foresters with more job continuity and a more favorable climate for career status. The scaler works under the psychological handicap of the knowledge of the purchaser and often under a heavy but sporadic workload that he has little power to adjust. The cruise work, however, is done long before the sale. The cruiser can take reasonable time

to make a comprehensive check.

Perhaps the most critical consideration of all the selection of one of the two methods is accountability of the allowable cut and the adequacy of the stewardship of BLM. Under the cruise sale, identical cruising standards are used in the sale as in the basic, governing inventory calculations of the allowable cut. No slippage exists in the depletion of the inventory base. Long range inventory plans are based on an allowable cut of all merchantable volume. This includes the low lumber grades such as No. 4 or "economy" in Douglas fir.

Market fluctuations in the value of end products are sharp and unpredictable. Scaling is subjected to considerable economic pressure during low markets to rough cut or make deductions for material that may temporarily fall below the

A STAND of 250-year-old Douglas fir.



LOG DUMP in western Oregon. The entire load is swung off the truck and dumped into the water. Logs are rafted to the mills.

breakeven cost line. In the cruise sale this volume is accounted for but valued on the current market, hence the total price may appear low. Logging efficiency must be governed closely under scale sales to preclude the deletion or excessive breakage of these marginal-value volumes.

In summary, by comparing cruising versus scaling, tests conducted by BLM foresters on O&C land show that experienced cruisers can maintain necessary accuracy of volume and value derivations as a reference point for prospective purchasers using tree scale. The cruising sales require fewer foresters to maintain full control of the resource for a given volume sold. On the average cruised areas are cut cleaner, with resultant benefits to local economy and the public in general. Better climate exists for the retention of career professionals when timber is measured by cruising. In addition, cruising makes it possible to offer the full allowable cut every year; cutting quotas are dovetailed accurately with inventory data on an identical standard to insure an orderly perpetual harvest of badly needed timber for industry, local communities, and the Nation.

End

The annual census of the gray whale, taken on its migration route along the coast of California, places the present population at about 6,000 animals.



TIME AND

by Richard D. Burr, Land Classification Specialist

THE BUREAU OF LAND MANAGEMENT has a vast responsibility in the management of Federal grazing lands. One of the first steps in effective land management is *classification*. By classification BLM range managers are able to arrive at how best the natural resources can be conserved, reclaimed, and put to use for the American public. The answers are not simple, however, and misconceptions may easily occur, even on the part of the range managers. One such misconception is that present range conditions are entirely due to overgrazing and misuse in the past. Such a broad generalization is not applicable to all Federal grazing lands.

The rangelands of the West cannot be painted with a broad brush. Each segment must be studied in itself. One source of valuable informa-

tion is in Department of the Interior Library systems—historical records. Time can speak out—and it sometimes tells a fascinating story!

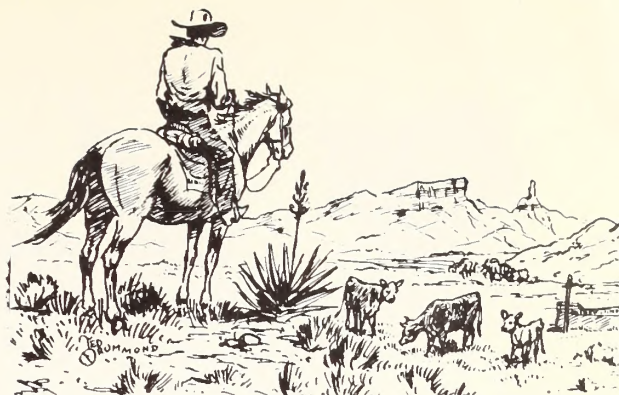
One way that time talks is with the tongues of long-dead explorers. From their pens comes the story of the same ranges BLM manages today. They saw the ranges as used by countless multitudes of big game. The game have been replaced by large, though lesser numbers, of livestock. This difference in the kind of use and season of use by livestock has had its effect on the range vegetation. Often, however, the facts about that effect have become distorted by the passage of time, causing a problem which can perhaps best be solved by reviewing it with the objective view of a stranger to the ranges—the early explorer.

Guideposts in time exist; there are historical

THE HAYDEN EXPEDITION photographed Independence Rock, Wyoming, in 1870.



RANGE VEGETATION



visor, Missouri River Basin Studies, BLM

records, written and photographic. In the early nineteenth century Robert Stuart described the wildlife in detail, and the forage in general terms on a route that antedated much of the Oregon Trail. In Wyoming alone, he entered five out of six grazing districts administered by the Bureau of Land Management today. After Stuart the records are many. Official documents of Government expeditions or semiofficial journals crowd one on another to describe or direct travel towards the "Golden West."

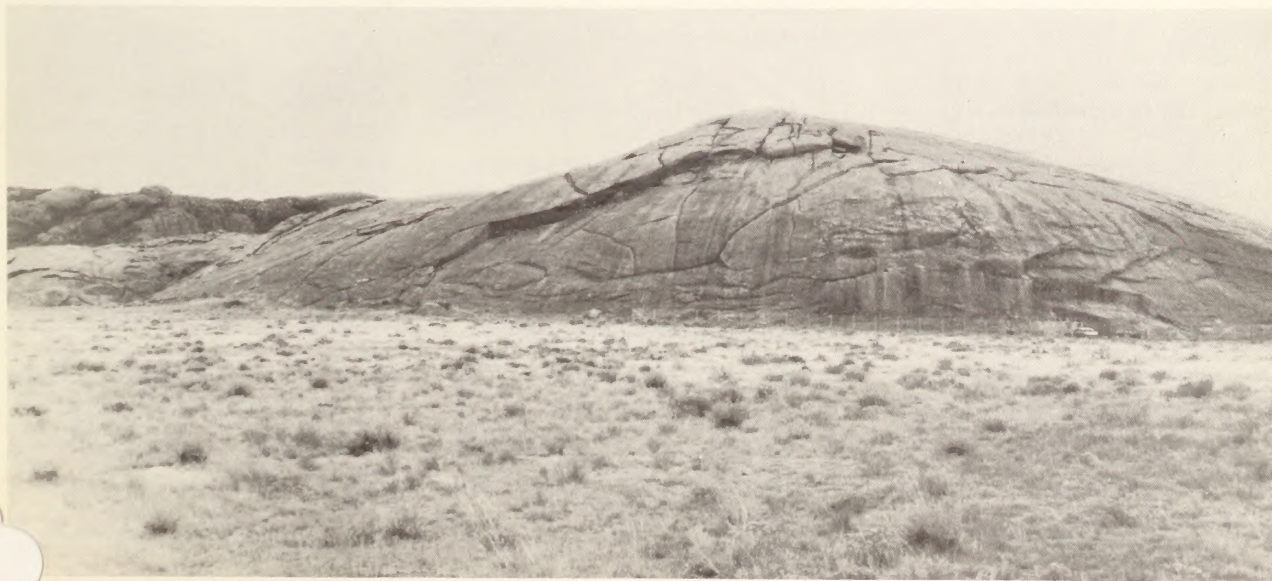
Such records cannot be regarded as unflinching. They recognize pitfalls in reminiscences of the "good old days." Narratives, for our use, are best when written on the spot as factual day-to-day reports, not as recollections. Even then, the early traveler often dismissed the range country as a

total desert; whereas he was sometimes reporting normal to good range conditions. In early journals written about southern and central Wyoming one can read of the same pattern of sagebrush in the uplands and rather lush grass in the river bottoms that is observed today. Photographs, of course, are entirely objective, but they only cover the later years, and are difficult to locate.

These early journals bring panoramas of the Wyoming ranges which are sometimes hard to believe; they are often unlike present day preconceptions. When well documented, early journals provide a valuable guide to a specific range. The following excerpts cover an area in present Missouri River Basin Land Classification Studies.

(Continued on page 12)

A 1958 photograph of Independence Rock shows little vegetation change after 88 years.





active acres

NATIONAL FORESTS

Land exchanges in connection with the consolidation or extension of national forests would be handled by the Forest Service, U.S. Department of Agriculture, under proposed regulations announced by Department of the Interior.

The proposed revision of the code of Federal Regulations would eliminate rules made obsolete by a law approved June 11, 1960, which transferred certain functions of the Secretary of the Interior over national forest land exchanges to the Department of Agriculture.

Under the proposal all applications for the exchange of national forest land, and exchanges of timber for land would have to be filed with the Forest Service, U.S. Department of Agriculture. If an application involved public lands under the jurisdiction of the Bureau of Land Management a copy would have to be filed with the proper BLM land office.

PHOSPHATE

New phosphate prospecting rules will substitute a prospecting permit-lease system for the old noncompetitive lease method. Under the new regulations phosphate prospecting and development on Federal lands

will be conducted under the same systems used for coal, sodium, sulphur, and potassium.

The new rules provide for issuance of 2-year prospecting permits covering up to 2,560 acres each. An annual rental of 25 cents per acre will be charged for lands under prospecting permits. The acreage limitation of 10,240 acres for phosphate leasing will also apply to prospecting permits and leases.

Under the new rules the person or company holding a prospecting permit will have exclusive rights to prospect for phosphate on the area covered by the permit. The permit could be extended for up to 4 additional years. If a valuable deposit of phosphate is discovered, the person holding the permit will be given the right to lease the land containing the deposit.

Phosphate production from federally owned lands amounted to about 1.4 million tons during 1960, an increase of some 400,000 tons over 1959. Production came from lands in Idaho, Montana, and Florida.

PUBLIC LAND LAWS

The Department of the Interior sent to the Congress the Administration's first-step recommendation to update and modernize the public land laws.

One new land sale law would replace all or parts of some 30 old laws, dating back as far as 1877.

The proposed bill would permit the Department of the Interior to sell tracts up to 5,000 acres to qualified State and local government agencies for urban and business development. It would also permit competitive-bid sale of tracts up to 1,380 acres to individuals and companies for urban and business development. All sales would require prior plans for development of the tracts.

The Administration draft would carry a three-fold approach to public land sales: (1) direct sales to State or local governments of tracts up to 5,000 acres, (2) competitive bid sales to private individuals or developers of tracts up to 1,280 acres, or (3) layout and subdivision by the Government with direct sale or lease of individual sites and lots.

ELEVATION METERS

Two new mobile elevation meters, designed automatically to determine relative land elevations, have been purchased by the Geological Survey and are now being used in its topographic mapping operations.

The elevation meter is an electromechanical device built

into a specially modified motor vehicle and is used to determine elevations of control points for producing topographic maps from aerial photographs. These instruments are expected to speed up field mapping procedures and results in more economical operations where roads are available for their use.

Each meter contains a very sensitive electronic pendulum for measuring road slopes, and distances traveled by the vehicle are measured by a small fifth wheel of accurately known dimensions. By means of a built-in electronic computer, the instrument continuously integrates the slopes and distance measurements to obtain differences of elevation.



NEW WILDLIFE REFUGE

Establishment of the Cedar Island National Wildlife Refuge in Cartaret County, North Carolina, was approved by the Migratory Bird Conservation Commission. The authorized acreage is 16,214. Acquisition will be financed from duck stamp revenue.

The Cedar Island refuge was selected for its great potential as a waterfowl area. Development will be concerned with the conversion of vast area of needle-rush to more productive marsh and aquatic vegetation. The developed refuge will provide protection and improved habitat for puddle ducks, diving ducks and Canadian geese. It will also be a demon-

stration area to develop management techniques which will be useful in managing similar types of private and public marsh areas.

DUCKS

Drought again drove large numbers of ducks from the most productive portion of their North American breeding range—the prairie pothole region. As a result, the threat of another duck crop failure looms for 1961.

As in 1959, the lack of water in the Canadian prairie pothole region has driven the ducks elsewhere. In 1959 they moved northward and there was little production from these displaced birds.

MICROBES

Microbial metallurgy—using bacteria to alter minerals—is described in an introductory technical publication released by the Bureau of Mines.

Bacteria may prove important in the selective separation of metals from ores and metallurgical solutions, the production of sulfur from gypsum or pyrites, and the production of sulfuric acid from elemental sulfur.

However, other metallurgical activity by bacteria is harmful. Premature failure of flashlight batteries may be caused by nitrifying bacteria. Also, thousands of dollars worth of mining equipment is destroyed each year by acids formed by iron- and sulfur-oxidizing bacteria in active and abandoned coal mines of Pennsylvania and West Virginia.

A copy of Information Circular 8003, "Possible Uses for Bacteria in Metallurgical Operations," can be obtained from the Publication-Distribution Section, Bureau of Mines, 4800 Forbes Avenue, Pittsburgh 13, Pa.

WILDERNESS

Half a million acres were added to the national forest wilderness system during 1960, bringing total acreage to more than 14.5 million acres, most of it in the West. Largest addition last year was the Glacier Peak Wilderness, 458,505 acres in Washington's Cascade Mountains. Other additions were the 6,051-acre Wheeler Peak Wild Area in New Mexico and some 3,000 acres added to the Cucamonga Wild Area in California. The Bridger Wilderness in Wyoming and the San Jacinto Wild Area in California were reclassified from primitive areas.

AIR LOGGING

Helicopter logging may begin in southern Oregon next spring. A powerful military helicopter, able to lift nine tons, is due for trial in woods operations.

REFORESTATION

Twenty-five years after deforested slopes in New York State were replanted to evergreens, total runoff in streams in three study areas was reduced as much as 0.36 inches per year, and peak discharges during the dormant season were reduced as much as 66 percent.

However, no significant changes were found in peak discharges during the growing season, or in rates of base-flow recession, volumes of direct runoff, or annual low flow.

ENERGY RESOURCES

A detailed picture of the production and consumption of all forms of energy used in the United States is given in a report just published by the Bureau of Mines.

The new statistical publication presents a comprehensive view of where the Nation's supplies of energy materials come from, what happens to them as they flow from producers to consumers, and how they are finally used. The report con-

(Continued on page 14)

TIME AND RANGE VEGETATION

(Continued from page 9)

In 1820 the Long Expedition approached the Rockies with, "the cactus ferox reigns sole monarch and sole possessor of thousands of acres of this dreary plain." Fremont, in the same area 22 years later, confirmed this with, "After a ride of twelve miles . . . over a plain covered with innumerable cactii . . ." He finished, "the ravines as always, furnish good pasture." This is a pattern. The journals agree on long stretches of dry withered grass, or dreary plain. Lush green grass, if any, is coupled with the richer bottom lands. It is the same today. Grass "belly-deep to a horse" is in the bottoms; the dry uplands have less and poorer feed. When using early records as guides to a range, it is necessary to compare like sites; uplands described in the past must be matched to that upland today.

THE HAYDEN EXPEDITION took this view in 1870.



For example, in 1833 Townsend described a site near the present city of Casper, Wyoming:

The country has now become more level but the prairie is barren and inhospitable looking to the last degree. The twisted, aromatic wormwood (sagebrush) covers and extracts the strength from the burnt and arid soil. The grass is dry and brown, and the horses are suffering extremely of want of food. Occasionally, however, a spot of lively green appears and here we allow our poor jaded friends to halt at this point.

The next day:

We left the Platte River and crossed a wide, sandy desert, dry and desolate and on the 9th encamped on the banks of the Sweetwater. Here we found a large rounded mass of granite, about 50 feet high, called "Rock

Independence" . . . The banks of the stream are clothed in most luxuriant pasture.

Move on in time to 1842 at the site (near Casper) where Townsend made his observation, and read the interesting summation by Fremont, comparing the lush prairie east of Fort Laramie with the rangeland west of Fort Laramie, after traveling over both:

With the change in the geological formation on leaving Fort Laramie, the whole face of the country has entirely altered its appearances. Eastward of that meridian, the principal objects which strike the eye of a traveler are the absence of timber, and the immense expanse of prairie, covered with the verdure of rich grasses, and highly adapted for pasturage. Wherever they are not disturbed by the vicinity of man, large herds of buffalo give animation to this country. Westward of Laramie River the region is sandy, and apparently sterile; and the place of the grass is usurped by the *artemisia* (sagebrush) and other odoriferous plants, to whose growth the sandy soil and dry air of this elevated region seem highly favorable.

One of the prominent characteristics in the face of the country is the extraordinary abundance of the *artemisia*, they grow everywhere . . .

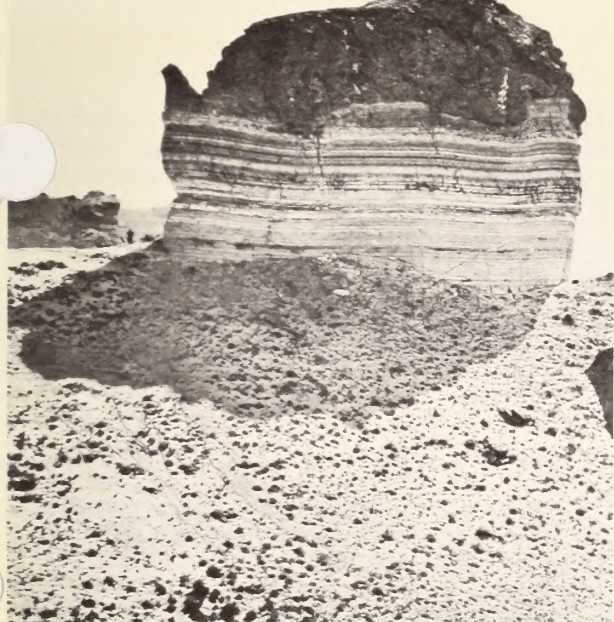
The "wide, dry desolate plain" of Townsend is

THE SAME AREA looks much the same in 1958. Brush is less dense, heavy grass in foreground was not present in 1870.

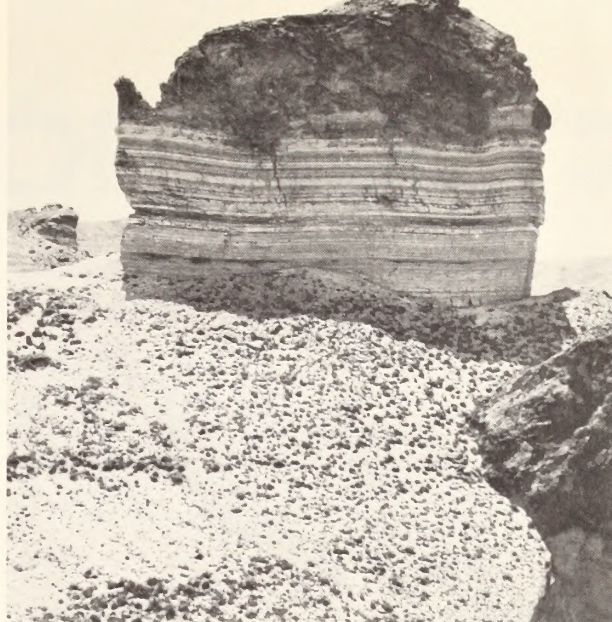


seen by Fremont as: "The adjoining prairies are sandy but the immediate river bottom has a good soil which afforded an abundance of soft green grass to our horses." . . . No shelter here, "except was to be found under the cover of the absinthie (sagebrush) bushes which grew in many thick patches, one or two and sometimes three feet high."

Immigration was at its height on the Oregon Trail (1845) when Palmer wrote of this same plain, "The range is very poor and it is necessary to divide into small parties to procure forage for the cattle", but arriving at Independence Rock, "The grass is good but confined to patches."



1869 PHOTOGRAPH of a rock near the present town of Green River, Wyoming.



THE SAME ROCK and slope 90 years later.

Again and again, this is the recurrent pattern: dry uplands with heavy sagebrush, and dry grass contrasting to productive, but relatively small areas of river bottom. The comments of the journals on this and the next portion of the Sweetwater River can be evaluated against the Hayden Expedition photographs of 1870 and the present conditions reported by Missouri River Basin Studies photographs of 1958. The meadows of the early explorers are still to be seen. We go to Fremont, August 2, 1941, encamped eight miles west of the Devil's Gate on the bottomland of the Sweetwater River:

Everything is green and the profusion of beautiful flowers in pleasing contrast with the sterile grandeur of the rocks and the barrenness of the sandy plains, which from the right bank of the river sweeps up to the mountain ranges that form its southern boundaries (Ferris Mountains).

Here, Father DeSmet (1843) generalized

... the soil is everywhere so very barren that with the exception of the absynthe (sagebrush) that covers the plain ... vegetation is confined to the vicinity of the rivers.

Palmer, July 14, 1845, observes of this stretch:

This day we traveled about twenty-two miles. The road sometimes leaves the creek for several miles and passes over barren, sandy plains; no kind of vegetation but the wild sage.

The 1870 photographs of the Hayden Expedition document these remarks on dense sagebrush. The 1958 photographs show less brush in this area now than 88 years ago. The relative abundance of sagebrush can be estimated through narratives. Fremont traveled westward again in 1843. The abundant pasture of the grasslands of the Laramie Plains (Wyoming) enthralled him. Then swinging around the northern end of the Medicine Bow Mountains, he wrote:

In the afternoon we took our way directly across the spurs on the point of the mountain; where we had several ridges to cross; and although the road was not rendered bad by the nature of the ground, however, it was made extremely rough by the stiff tough bushes of *artemisia tridentata*, in this country commonly called sage.

Near the site of Rawlins, he tired of the sagebrush, turned north to go through Muddy Gap, and joined the Oregon Trail. From this point where Fremont turned, another document attests to a great abundance of sagebrush on untouched upland range a short distance south. T. J. Farnham, in 1839, elected to travel westward across the central Rocky Mountains. His reaction, when he emerged on the headwaters of the Yampa:

The country, as we descended, became more and more barren. The hills were destitute of timber and grasses; the plains bore nothing but prickly pear and wormwood (sagebrush) ... It stands so thickly over thousands of acres of mountain valleys, that it is well nigh impossible to urge a horse through it, and the individual who is rash enough to attempt it will himself be likely to be deprived of his mocassins, and his horse of his natural covering of his legs.

The stability of the sagebrush cover seems well established by him and these other travelers. In fact, arid country seems resistant to swift change in any fashion.

Relationships such as these demand careful investigation by range managers. The results can be a valuable tool in present and future range management programs. **End**

Leasing of native asphalt on public lands has recently been permitted. In the ancient world, pitch or native asphalt was used as a binder for pavements, for waterproofing cisterns, and for mummification.

ACTIVE ACRES

(Continued from page 11)

tains a wealth of information on coal, petroleum, natural gas, wood, and all derivatives of the various forms of energy.

A copy of Report of Investigations 5821, "Energy Production and Consumption in the United States: An Analytical Study Based on 1954 Data," can be obtained from the Bureau of Mines Publication-Distribution Section, 4800 Forbes Avenue, Pittsburgh 13, Pa. Persons requesting the report should specify its number and title.

MAP INDEX

An index map of water-resources investigations in Tennessee—the first in a series that will eventually cover every State in the Union—has been issued by the Geological Survey.

Plotted on the map are the active and discontinued Geological Survey stations where streamflow has been measured, active and discontinued observation wells where basic data has been gained on water-table conditions, and the boundaries of areas where active research projects are being conducted.

The Tennessee map shows 59 primary or long-term hydrologic streamflow stations, 12 secondary or short-term stations and 38 water management or specific purpose stations.

Also shown on the map are graphic illustrations of the average discharge of principal Tennessee Rivers; average annual runoff for the years between 1931 and 1960; a generalized picture of minimum streamflow conditions in the State; and a chart showing the availability of ground water.

Free copies of the "Index to Water Resources Investigations in Tennessee" are available upon application to the Director, U.S. Geological Survey, Washington 25, D.C.

CAMPING RULE



Camping in national parks will be limited to a stay of not more than 14 days during intense public-use seasons under new regulations proposed by the National Park Service.

The proposal is designed to prevent use of a park campsite as a seasonal residence.

More and more campers make use of park campsites every year. Last year some 4.8 million camp-use nights were tabulated in park campgrounds. All indications are that the 1961 total will surpass that number.

RESOURCE PAPERS

Papers of the 1960 Western Resources Conference, held at the University of Colorado last August, have been published.

The papers include discussions of new calculation techniques, approaches to water-use patterns, and surveys of work in special areas.

There are contributions on the difficulties of working in underdeveloped regions, recreation's claim to water, and water research and training in the universities.

Copies of the publication are available from the University of Colorado Press, Boulder, Colo., for \$3.50.

End

RIGHTS-OF-WAY

New regulations have been announced that will require fee schedules for the right-of-way to reflect the fair market value of the public lands they cross. Under the proposal the charge for a right-of-way across public lands would be the fair market value of the right-of-way.

Rights-of-way charges would have to be paid in advance. At any time following the first 5 years after the granting of a right-of-way BLM could, under the proposal, review the charges and make any necessary adjustment. Under existing regulations there is a fixed charge of so much per mile per year for the rights-of-way across public lands. Often this fixed charge does not reflect the current fair market value.

Since 1937 the U.S. Treasury has gained more than \$28 million over and above the cost of acquiring and managing the O&C.

In 1960 the gross forest income per acre on the O&C was \$13.70.

In Alaska BLM is responsible for some 125 million acres of forest land.

American Indian people own approximately 53 million acres of land.

The first Outer Continental Shelf mineral development off the west coast is beginning. Phosphate will be extracted from depths of 600 feet.

COLOR OF TITLE

PRIOR TO 1928, Congress found itself confronted with an ever-increasing number of private bills introduced to convey title to particular tracts of unpatented public domain land claimed by individuals or organizations who had in good faith acquired imperfect titles to the land.

These public lands had become involved in private holdings in a number of ways—through error in bookkeeping, through acts of outright fraud. In many instances homestead entrymen would start paying taxes on the land and then abandon the entry. Failure to continue with tax payments was cause for the local assessors to “sell” the land for tax delinquency—not knowing that title had not passed from the United States. The Civil War also contributed to many adverse claims in the South because of the break in contact between the local offices and the Federal Government.

Once these adverse claims were established, whatever the reasons, title was passed from one to another over the years until such a time as the matter came to the attention of either the Government or the present claimant.

As the present claimant in most cases was an innocent victim, Congress often acted favorably on private bills. As land values increased and people became more aware of the importance of “good title”, the demand on Congress made it necessary to provide relief other than by private bill.

On December 22, 1928, Congress approved a bill commonly referred to as the Color of Title Act (45 Stat. 1069). This act authorized the Secretary of the Interior, at his discretion, to issue patent to not more than 160 acres of public land held in good faith and in peaceful, adverse possession by a citizen of the United States, his lawful ancestors or grantors, for more than 20 years under claim or color of title and on which valuable improvements had been placed or some part thereof reduced to cultivation. All minerals were reserved to the United States. This act provided for payment by the claimant of not less than \$1.25 per acre after consideration had been given to the equities of the claimant.

The Color of Title Act was amended by the act of July 28, 1953 (67 Stat. 227). This amendment made the issuance of patent mandatory for valid claims set forth in the original act. It provided for the issuance of patent at the discretion of the Secretary for not more than 160 acres of land held in good faith and peaceful, adverse possession for the period commencing not later than January 1, 1901 to the date of application during which time the claimants or predecessors in interest paid taxes levied on the land by State and local government units.

The payment of not less than \$1.25 per acre was also required by the amendatory act. The latter act also made discretionary the issuance of patent without mineral reservation if so requested by the applicant. In that case the claim must have originated prior to January 1, 1901, valuable improvements placed on the land, some portion cultivated, or taxes been paid since January 1, 1901 to date of application. This would be effective only if the lands were not included in a mineral lease or within a mineral withdrawal at the time of issuance of patent.

In the adjudication of applications under the Color of Title Act, consideration must be given to several important requirements:

1. The good faith of the applicant (present claimant). The act was not intended to give relief to persons or firms who knowingly acquire a defective title and expect to perfect such title under authority of the act.
2. The claim must be based on some written instrument purporting to convey title. The mere belief that a deed for adjoining or adjacent land included the claim land is insufficient basis for a valid claim under the act.
3. The applicant must be the sole claimant, or if not, the application must be in the name of all claimants or in the name of an agent having the written consent of each claimant to act in his behalf.

End

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REINDEER IN ALASKA. In a recent year there were an estimated 30,000 domestic reindeer on BLM lands in Alaska.